

general for 1877 and secretary-general for 1878. The city for the meeting in 1878 has not been officially determined upon, but the intention of the committee is unanimously to propose Versailles or Paris, in order to take advantage of the interest created by the Universal Exposition.

The 1877 meeting will take place at Havre under the presidency of Dr. Broca, the celebrated anthropologist; M. De Lairain, the agricultural chemist, will be the general secretary.

The recommendations to Government have been few but interesting. The section of Mathematics asked the Government to give Commandant Perier and his fellow-workers the sum sufficient for continuing their present work of triangulating France. On Monday, the 21st, a lecture was delivered by M. Perier at the theatre on the geological work executed under his direction by staff officers, and the determination of the longitude of Puy-de-Dôme by electricity. The work is proceeding at the present time, and a temporary astronomical observatory has been established side by side with the meteorological one for that purpose.

The meteorological section asked government to organise a general issue of agricultural warnings (which M. Leverrier is preparing to do), to establish a national institute of meteorology, and to assist General Nansouty in the establishment of an observatory on the Pic du Midi, at an altitude exceeding by 3,000 feet the Puy-de-Dôme.

The "encouragements" to scientific workers are not determined by the General Meeting, but by the Council, according to the wants which may be made known from time to time during the year, and a report of the manner in which the money has been spent is presented yearly at the inaugural session of the Association.

NORDENSKIÖLD'S EXPEDITION TO JENISEJ, 1876.

THE following plan of the expedition to the mouth of the Jenisej, fitted out by Messrs. Oscar Dickson, of Gothenburg, and Alexander Sibiriakoff, of St. Petersburg, has been published in the *Göteborgs Handels Tidning* :—

As it was desirable that the inquiries into the natural history of middle and north Siberia, and specially of the Jenisej valley should be recommenced during an earlier part of the year, a number of the members of the expedition were obliged, in the month of April, to travel by land *via* St. Petersburg, Moscow, Jekaterineburg, &c., to the town of Jeniseisk, thence to proceed down the river by boat to its mouth. For naturalists who had before made themselves familiar with the animal and plant world of northern Scandinavia, such a boat journey offered an excellent opportunity for comparative studies of the natural history of Siberia and Scandinavia, which will not only be of great moment for a knowledge of the flora and fauna both of Russia, and specially of Siberia and of Scandinavia, but also, as I have before pointed out, of true practical value in judging of the fitness of middle Siberia for cultivation. The land expedition is also entrusted with the task of carrying out the soundings necessary for ascertaining whether the Jenisej is navigable, and other hydrographical work, and specially of examining the navigable waters in the lower course of the Jenisej between Dudino and Mesenkin, in order to be able, on the arrival of the vessel at the last-named place, near the mouth of Jenisej, to pilot it to its proper destination, Dudino. I have given the leadership of this division of the expedition to Zoology-Docent H. J. Théel, from Upsala. Besides him there take part in it two botanists, Rector M. Brenner, from Helsingfors, and Docent H. W. Arnell, from Upsala, and two zoologists, Dr. J. Sahlberg, from Helsingfors, and Dr. F. Trybom, from Upsala.

It is, perhaps, already known through the newspapers that these gentlemen have arrived at Jeniseisk, and commenced the intended boat journey from that place to the mouth of the river.

For the main division of the expedition, which is to make its way by sea to Jenisej, I have chartered the steamer *Ymer*, of Gothenburg. The *Ymer* is a strong freight vessel, built of oak, of the first class in Veritas, of 400 tons burden, fully rigged with sails, and having a steam-engine of 45 horse-power.

This part of the expedition is accompanied, besides the undersigned, by Docent F. Kjellman and Dr. A. Stuxberg, both members of the expedition of 1875; the former also of that which wintered in Mussel Bay in 1872-3.

The expedition now departing in the *Ymer* is not, as will be seen from the above, a commercial enterprise, but a scientific expedition, whose main object is to survey the navigable waters between Obi-Jenisej and northern Norway. But the Russian government having in the most accommodating way removed the obstacles which threatened to arise to the bringing in of goods to those regions where naturally no custom-house officers are to be found, I have considered that I ought, in order thereby practically to open the new commercial route, to take with me a small quantity of goods suitable for north Siberia, for the most part sent as samples by Swedish manufacturers, and, if opportunity offers, I shall also endeavour to obtain return cargo from Siberia to Europe.

During May, June, and the greater part of July, it is not possible to count on finding open water east of Novaya Zemlya, and it was therefore unnecessary for the *Ymer* to leave Sweden sooner than the beginning of July, the calculation being that she would enter the Kara Sea in the end of the month or the beginning of August. If all goes well the vessel ought in that case to be in a few days at Mesenkin, where a meeting has been fixed with Dr. Théel's party. If there be sufficient depth of water the voyage is to be continued to Dudino, where the cargo will be discharged and a new one taken on board.

By the end of August the *Ymer* ought to be again clear to return the way she came, possibly with some short excursion towards the north-east in order as far as possible without coming among ice to examine the sea between the mouth of the Jenisej and Cape Tschelusckin. In the latter half of September I count on being again in Norway. A. E. NORDENSKIÖLD

NOTES

THERE is little to add in reference to the arrangements for the Glasgow meeting of the British Association to the information we published some weeks since (vol. xiv., p. 170). Everything has evidently been done by the local secretaries and committee to render the meeting a success so far as they are concerned. The class-rooms at the University, where the sections, with one exception—the Geographical—will be accommodated, have been for some time in the hands of workmen, and the necessary alterations will be completed in good time. The lower hall of the museum, which is situated a little to the east of the north or main entrance of the university, will be fitted up as the reception-room, and in connection with this will be the post and telegraph offices, general inquiry office, a stall for the disposal of newspapers and scientific literature. In this portion of the building there will also be located the offices and rooms of the local committee, and a ladies' retiring-room. Adjoining the reception-room will be the ticket-office, and from this will be the entrance to the refreshment-room. The sections will be distributed over the university, and the local committee contemplate issuing a diagram of the building, showing the class-rooms allotted to each department and their situation. The arrangements have been carried out so that the committee-rooms will adjoin all the sections. At the Queen's Rooms the arrangements are well forward for the accommodation of the Geographical Section.

MOST of the time of the International Congress of Orientalists which meets at St. Petersburg during the first ten days of September will be devoted to researches connected with Russian Asia. Of the four *stances* claimed for Asiatic Russia, we learn from the *Times* the first will belong to Eastern and Western Siberia, the second to Central Asia, so far as it is under Russian sway, together with the independent principalities of Ouzbekistan; in the third will be treated Caucasia, with the Crimea, and the other countries of European Russia which are inhabited by Asiatics; in the fourth, Trans-Caucasia (Georgia and Armenia, according to their ancient limits). In the three following *stances* the Congress will concern itself with the rest of Asia in three

groups—1. Eastern Turkestan, Tibet, Mongolia, including Manchuria and Corea, China Proper, and Japan; 2. India Cis-Gangetic and Trans-Gangetic, Afghanistan, Persia, and the Indo-Chinese Archipelago; 3. Turkey, including Arabia and Egypt. The subjects to be treated in these seven *séances* are the cartography, ethnography, linguistic science, history, and literature of the respective countries. The last two *séances* will be devoted (1) to the questions relative to the archaeology and numismatics, (2) to their religious and philosophical systems. An exhibition of objects illustrative of the antiquities and actual present condition of the Eastern peoples will be a novel and interesting feature. The Emperor of Russia has given to the St. Petersburg committee a sum of 75,000 roubles to defray the expenses of the meeting.

IN connection with the remarks on the influence of temperature on the herrings, in last week's *NATURE* (p. 352), we have read with much interest, in the *Scotsman* of August 25, the fishing report of the fishery district officer for North Sunderland. From this report it appears that for the week ending Saturday the 19th, the sea thermometers furnished to the fishermen by the Scottish Meteorological Society indicated a temperature on that coast of from 58° to 59°, but that on Monday evening, the 21st, when the nets were shot, the temperature had fallen to 55°, and this was the first night the herrings were caught. Since then the shoals of herrings have been so dense that several crews have sustained heavy loss by the weight of the herrings taking the nets to the bottom. The writer states that all this season during the warm weather the herrings were found low in the nets from Northumberland to Peterhead, and it was only when they came close upon the shore into shoal water, or from fifteen to eighteen fathoms, that the herrings were got. He thinks it premature to say that the Fraserburgh and Peterhead fishing will be a short one, as probably an inshore fishing, and a heavy one, may yet be made, the herrings having been approaching the shore at a depth below the nets. Evidently the remarkable weather and fishings of this herring season will furnish data for a contribution of no little interest to this difficult but important inquiry.

FROM a programme before us we gather that the exploration of the Cresswell Caves, carried on last year by the Rev. J. M. Mello, assisted by Mr. Heath, is now being conducted by a committee, of which Sir John Lubbock, Bart., M.P., is president, and Prof. Boyd Dawkins, F.R.S., is secretary. The superintendence of the work is in the hands of the Rev. J. M. Mello, the secretary, and Mr. Heath. The results are now being classified in Owens College, and we can confidently inform our readers that when the report by Mr. Mello and the secretary is presented to the Geological Society of London, it will add as much to our present knowledge of palæolithic man as the discoveries in Brixham did to the knowledge of 1857. The names of the members of the committee are a sufficient guarantee that the work will be carried out as well as it can be.

M. LEVERRIER has sent a circular to the several presidents of departmental councils notifying them that the Director of Government Telegraphy has agreed to send telegraphic messages to each head town of the departments (eighty-seven in number) if a proper organisation has been established to spread the warnings and to use them in the proper way. Departmental councils wishing to establish agricultural warnings are consequently to communicate with M. Leverrier, who will help them in doing so. The conditions required for the establishment of a departmental meteorological service are the appointment of a local meteorological board, which is to modify, according to local circumstances, the general information sent to the chief town, and to disseminate it in the several districts. The state telegraph circulates, free of charge, these local warnings. But in each district there must have

been established a public barometer, thermometer, and rain-gauges, regularly inspected, verified, constructed according to the official pattern, and a competent local observer must have been appointed.

THE *Turkestan Messenger* states that M. Severtsov proposes to undertake, this autumn, a journey of exploration in the valley of Fergana and the neighbouring mountains. Next summer he will explore the Altai and the mountains of Southern Khokand, pushing on in the autumn of 1877 as far as the Pamir. M. Severtsov will be accompanied by an astronomer, a mining engineer, and a botanist.

THE steamship, which intends to cross with preserved meat from Buenos-Ayres, set sail from Rouen on August 23, M. Tellier, the inventor of the system, being on board. The cold is to be obtained in the hold of the ship by constant circulation of air, refrigerated by contact with tubes in which methylic ether is constantly evaporating.

THE Secretaries of the British Pharmaceutical Conference, whose thirteenth annual meeting commences at Glasgow on September 5, have already issued a list of papers which are promised for reading. We think it would be well if the British Association took a leaf out of the book of the Pharmaceutical Conference.

THE Lords of the Committee of Council on Education being of opinion that the subject of Physical Geography, as now defined in the Science Directory, is not one towards instruction in which the special aid of the Science and Art Department should be continued, intimate that the outlines of the syllabus of a subject which will take the place of physical geography, are now under consideration. The subject (physiography) will embrace those external relations and conditions of the earth which form the common basis of the sciences of nautical astronomy, geology, and biology, as treated in the Science Directory. At the same time it is proposed to allow payments for the next two years for those students who have already been under instruction by any science teacher in physical geography, but not for any others, nor for any examination held after May, 1878.

FROM the *American Journal of Microscopy* we learn that arrangements have been made with Prof. Huxley to deliver three lectures in New York on the 18th, 20th, and 22nd of September, the subject being "The Direct Evidence of Evolution."

MR. F. J. FARADAY, the Secretary of the Manchester Field Naturalists' and Archaeologists' Society, has also been appointed Secretary to the Manchester Aquarium.

IN a pamphlet recently issued by the Russian Government, detailed statistics are given with reference to the damage done by wolves throughout that empire. There are said to be not less than 170,000 of these animals, which, during last year were the cause of death to not less than 200 people; whilst the destruction of cattle and poultry by them is enormous, almost as much as by the cattle-plague.

THE number of visitors to the Loan Collection of Scientific Apparatus during the week ending August 26 was as follows:—Monday, 2,926; Tuesday, 2,460; Wednesday, 323; Thursday, 305; Friday, 322; Saturday, 4,361; total, 10,697.

M. ABEL TRANSON, a Professor in the Polytechnic School, Paris, has died at the age of seventy years. He was the author of numerous memoirs in the *Journal de Mathématiques*, edited by Lionville. He had been successively a disciple of Saint Simon and Fourier, and had attracted public notice by the part he played in the propagation of these eccentric doctrines of social reform.

THE Paris Exposition of Practical Insectology was opened last Sunday on the terrace of the Tuileries Gardens, although the preparations are far from being completed. It promises to be an interesting and successful undertaking.

It is well known that among the first enterprises in the form of original research undertaken by the Smithsonian Institution, was the organisation of a body of correspondents in meteorology for the purpose of securing reliable data in regard to the climatology of North America. This work was prosecuted as thoroughly as the means of the Institution would permit, and was conducted with unintermitting zeal from about 1848 until within a few years past, when the expenditure of ample means by the Signal Service for the same purpose rendered it unnecessary for the Institution to continue its efforts. A period of full twenty-five years or a quarter of a century is embraced in these records. The Institution has recently been engaged in working up and discussing these results for the purpose of obtaining reliable laws in regard to American climatology. Several years since this material was drawn upon by Prof. Coffin in the preparation of his work on the "Winds of the Northern Hemisphere," and published by the Smithsonian Institution. This was followed a few years subsequently by the publication of the tables of rain-fall prepared by C. A. Schott. We now have to report the appearance of a third volume of the series, that of the "Atmospheric Temperature," forming a work of about 360 pages, illustrated by three plates, one showing the summer temperatures, one those of winter, and one the means of the year. The new edition of the work on the winds, commenced by Prof. Coffin, and finished after his death by his son, with the assistance of Prof. Wojcikoff, will, it is understood, make its appearance in a short time.

The fourth number of the second volume of the *Bulletin* of the Geological and Geographical Survey of the Territories is occupied by several zoological papers by Mr. J. A. Allen, of Cambridge. The most important of these is one upon "The Geographical Variation among North American Mammals, especially in respect to Size." Referring to the generalisation that was made some years ago, that the American Mammals as well as birds increase in size with the latitude of their birth-place, as also with altitude, Mr. Allen remarks that this does not apply in the case of some of the carnivora, and that the following propositions more nearly express the facts: 1. The maximum physical development of the individual is attained where the conditions of environment are most favourable to the life of the species. 2. The largest species of a group (genus, sub-family, or family, as the case may be) are found where the group to which they severally belong reaches its highest development, or where it has what may be termed its centre of distribution. 3. The most "typical," or most generalised representatives of a group are found also near its centre of distribution, outlying forms being generally more or less "aberrant" or specialised.

A COMMISSION composed of members of the Institute and other men of science has been appointed by M. Teisserene de Borg, the French Minister of Commerce and Agriculture, to draw up the regulations for the National School of Agriculture which has been re-established by a vote of the Senate. That establishment was abolished by Napoleon III. in the beginning of his reign; it was created by the French Republic of 1848.

M. NADAULT DE BUEFON, a French *savant*, has sent to the Society of Acclimatisation, through M. Drouyn de Lhuys, the herbarium collected by Daubenton, the great friend of his illustrious ancestor. The herbarium was collected at Montbard, when Daubenton was busy in the erection of a sheep-house, which led to the introduction into France of the first *merinos*.

A NOTEWORTHY feature in the *Iowa Weather Review* for June, No. 6, is the five weather maps accompanying it—one showing the position of the ninety-seven stations now established in the State, while the other four show the distribution of the rainfall during each of the three decades of May and during the whole month. Dr. Heinrichs aims at establishing other twenty-two stations in order to secure that the greatest distance between any two stations shall not reach fifty miles, and about 100 stations for rainfall and other non-instrumental observations which he properly regards as necessary for an accurate study of the atmospheric conditions of Iowa. A rapid summary of the weather of March, April, and May, with tabular matter, in several respects of an original and highly practical character, completes an interesting number.

WE have on our table the following books:—"The Law of Storms, considered Practically," W. H. Rosser (Charles Wilson). "The Yorkshire Lias," Ralph Tate and J. F. Blake (Van Voorst). "Wine and its Counterfeits," James L. Denman. "The Sun; Ruler of the Planetary System," third edition, Richard A. Proctor (Longman). Arnott's "Elements of Physics," seventh edition, edited by Bain and Taylor (Longmans). "The Andes and the Amazons," James Orton (Harper Brothers). "Comparative Zoology," James Orton (Harper Brothers). "On Mixed Languages," J. C. Clough (Longmans). "Weather Charts and Storm Warnings," R. H. Scott, F.R.S. (H. S. King and Co.). "Geological Survey of Canada for 1874-5." "Lectures on Astronomical Theories" (John Harris). "Dental Student's Note-Book," Oakley Coles (G. Butcher). "United States Geological Survey," Vols. ix. and x. The following German works may be had in London from Messrs. Williams and Norgate:—"Lehrbuch der Pathologischen Anatomie," von Dr. F. v. Birch-Hirschfeld, Erste Hälfte (Leipzig, F. C. W. Vogel); "Handbuch der Zoologie," von Gustav von Hayek (Wien, Carl Gerold's Sohn).

THE latest additions to the Royal Aquarium, Westminster, include the following:—John Dorey (*Zeus faber*), Scad, or Horse Mackerel (*Trachurus trachurus*), Small-mouthed Wrass (*Acantholabrus exoletus*), Gemmeous Dragonets (*Callionymus lyra*), Sea Sticklebacks (*Gasterosteus spinachia*), Red Bream (*Pagellus centrodontus*), Three-bearded Rockling (*Motella mustela*), Large Spider Crabs (*Mair squinado*), Mexican Axolotl (*Axolotles guttatus*), presented by Mr. Jabez Hogg.

THE additions to the Zoological Society's Gardens during the past week include two Green Monkeys (*Cercopithecus callitrichus*) from West Africa, presented by Mr. Henry Richardson; a Sloth Bear (*Melursus labiatus*) from India, presented by Messrs. Royle and Gray, Lieutenants R.N.; two Russell's Vipers (*Vipera russelli*) from Ceylon, presented by Mr. Henry S. Saunders; three Dark-green Snakes (*Zamenis atrovirens*), four Dahl's Snakes (*Zamenis dahl*), a Clifford's Snake (*Zamenis cliffordi*) from Dalmatia, presented by Lord Lilford; a Hoffmann's Sloth (*Choloepus hoffmanni*) from Panama, deposited; a Macaque Monkey (*Macacus cynomolgus*), born in the Gardens.

SCIENTIFIC SERIALS

PART 4 of vol. xxvi. of the *Zeitschrift für Wissenschaftliche Zoologie* (March, 1876) opens with a long communication from O. Bütschli on the free Nematodes and on the Gastrotrichous genus *Chaetonotus*. He gives many additional particulars respecting forms already made known by Bastian and others. He comes to the conclusion that the Gastrotricha are intimately related to Dujardin's genus *Echinoderes*; and he combines them into a group *Nematorhyncha*. He then considers the relations of these forms to Vermes and Arthropods, and constructs a supposed phylogenetic tree. The paper is beautifully illustrated.—Dr. Hermann von Ihering has a controversial article on the development of *Cyclas* and the homology of the blastodermic